

REMARKS

In the present communication, no claims have been amended, cancelled, or added. The Examiner withdrew Claims 8, 9, 11-15, 31-35, and 39 from consideration. As such, Claims 7, 10, 16-30, 36-38, and 40 are currently pending. The Examiner's objections and rejections are as follows:

- I) The Examiner made the restriction of Claims 8, 9, 11-15, 31-35, and 39 final;
- II) Claims 7, 10, 16-24, 26, 28, 30, 36, 38, and 40 were rejected under 35 U.S.C. 102(b) as allegedly anticipated by Lorincz et al. (US Pat. 6,136,535); and
- III) Claims 25, 27, 29, and 37 were rejected under 35 U.S.C. 103(a) as allegedly obvious in view of Lorincz et al. in view of Hall et al. (U.S. Pat. 5,994,069).

I. Restriction Requirement

The Examiner made the restriction requirement of Claims 8, 9, 11-15, 31-35, and 39 final and has withdrawn these claims. (Office Action, page 2). Applicants maintain their disagreement with this restriction as these claims are dependent on claims that are being examined. Regardless, Applicants note that upon allowance of the pending independent claims, the Examiner should withdraw this restriction and examine these claims.

II. Anticipation Rejection

The Examiner rejected Claims 7, 10, 16-24, 26, 28, 30, 36, 38, and 40 under 35 U.S.C. 102(b) as being anticipated by Lorincz et al. (US Pat. 6,136,535) (Office Action, page 4). Applicants respectfully disagree with this rejection and submit that the Lorincz et al. reference does not teach, for example: i) generating a circular sense promoter containing cDNA, or ii) employing an anti-sense promoter oligonucleotide as a primer on a circular substrate.

i. circular sense promoter containing cDNA

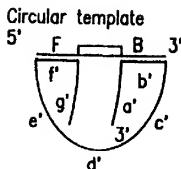
As part of the rejection, the Examiner asserts that Lorincz et al. teaches the formation of a circular substrate and cites a paragraph from columns 5 and 6 of Lorincz et al. as allegedly providing an anticipatory teaching. However, in the quotation of the cited paragraph, a number

of sentences are omitted from the paragraph that are central to the understanding of the type of "circle" being taught by Lorincz et al. The quotation is reproduced below, with the omitted sentences added back in (shown in bold), with the key sentence for proper understanding also being underlined:

In one preferred embodiment, a nucleic acid and a promoter-primer are hybridized. **The primer portion of the promoter-primer is designed to be complementary to non-contiguous portions of the target region.** For example portions at both ends of the target region of the nucleic acid may be selected for hybridization. In addition, the promoter-primer is designed to contain a promoter sequence for an RNA polymerase. Upon hybridization, the primer portions of the promoter-primer link the 5' and 3' end portions of the target region of nucleic acid, such that the promoter sequence portion is sandwiched between the two hybridized end sequences. The result of this hybridization is the formation of a circle.

Applicants submit that the omitted portions of the above quote shown in bold are important in order to understand what is being taught in this paragraph. In particular, as shown in the bold and underlined sentence, the primer portion of the promoter-primer is designed to be complementary to **non-contiguous** portions of the target region. Such a configuration results in the "circle" referred to at the end of this paragraph and indicates that a circular nucleic acid as claimed is not being taught. Instead, what is taught is a "U" configuration (template) with an unconnected "top" (promoter-primer) that forms the "circle" contemplated by Lorincz et al.

The "circle" configuration taught by Lorincz et al. in the above paragraph can be visualized by drawing out the components where the promoter-primer is complementary to non-contiguous portions of the target sequence. Conveniently, Figure 1A of the Lorincz et al. reference provides such a visual depiction:



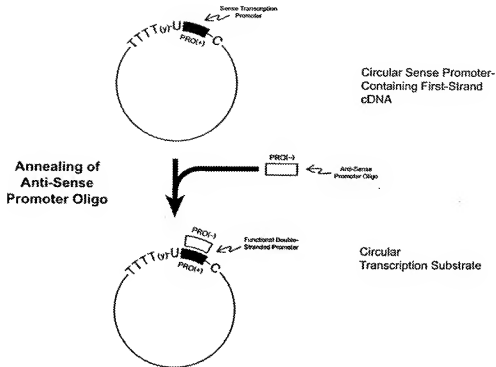
As can be seen in this figure, portions "F" and "B" of the promoter-primer are complementary to non-contiguous portions of the target sequence (i.e., they are complementary to "f'" and "b'"

respectively, which are non-contiguous portions of the target sequence). This configuration results in what the cited paragraph calls a "circle" and what the figure calls a "circular template."

However, as can be seen in the figure, no actual continuous circle is generated as recited in the present claims where the ends of the cDNA product are ligated together to form a circle that contains the promoter-primer. As can be seen in the schematic, the ends of the promoter primer are not ligated together to form a continuous circle. As such, since "no circular sense promoter-containing first-strand cDNA" is taught in Lorincz et al., this reference does not anticipate the present claims. Therefore, this rejection should be withdrawn.

ii. anti-sense promoter oligo

An additional reason that the Lorincz et al. reference does not anticipate the claims is that it does teach the use of an anti-sense promoter oligonucleotide as recited, for example, in step (c) of Claim 7. For example, in Lorincz et al., the description and schematics demonstrating transcription are all initiated from the "promoter-primer," while in the present claims, the promoter primer is part of the circular template and a *separate* oligonucleotide (the anti-sense promoter oligonucleotide) is used to initiate transcription. An exemplary embodiment from a portion of Figure 1 of the present application depicts the use of such a separate "anti-sense promoter oligonucleotide" as a white box:



Applicants respectfully submit that the Lorincz et al. reference does not teach the use of an anti-sense promoter oligonucleotide as recited in the present claims. As such, this is an additional reason that the anticipation rejection should be withdrawn and the claims allowed.

III. Obviousness Rejection

The Examiner rejected Claims 25, 27, 29, and 37 under 35 U.S.C. 103(a) as allegedly obvious in view of Lorincz et al. in view of Hall et al. (U.S. Pat. 5,994,069) (Office Action, page 5). In light of the explanation regarding the teaching of Lorincz et al. presented above, Applicants submit that this obviousness rejection fails. For example, this combination of references fails to teach: i) generating a circular sense promoter containing cDNA, or ii) employing an anti-sense promoter oligonucleotide as a primer on a circular substrate. As such, Applicants request that this rejection be withdrawn.

CONCLUSION

Should the Examiner believe that a telephone interview would aid in the prosecution of this application, Applicant encourages the Examiner to call the undersigned at 608-218-6900.

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